Attorney Docket No. 8540G-000083/COB PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appeal No. _____

Application No.:	10/791,428
Filing Date:	March 2, 2004
Appellants:	William S. Wheat
Conf. No.:	5404
Art Unit:	1795
Examiner:	Cynthia K. Lee
Title:	FUEL CELL ENERGY MANAGEMENT SYSTEM FOR COLD ENVIRONMENTS
Attorney Docket:	8540G-83/COB

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May 19, 2010

REPLY BRIEF

Pursuant to 37 CFR § 41.41, this reply brief is submitted in response to the Examiner's Answer mailed April 28, 2010 and supplements the Appeal Brief filed March 11, 2010.

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I. STATUS OF THE CLAIMS

Claims 1-22 and 35-46 have been cancelled. Claims 23-34 and 47-54 are pending and stand rejected. Claims 27-28, 30-34, and 47-54 are allowed. (See p. 2 of the Final Office Action of December 14, 2009).

Appellants appeal the rejection of claims 23-34 and 47-54.

II. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Appellants seek the Board's review of:

(a) whether claims 23, 24, and 26 are unpatentable under 35 U.S.C. § 102(b) over U.S. Pat. No. 6,186,254 ("Mufford").

(b) whether claim 25 is unpatentable under 35 U.S.C. § 103(a) over Mufford as applied to claim 23, in view of U.S. Pat. No. 6,592,741 ("Nakanishi").

(c) whether claim 29 is unpatentable under 35 U.S.C. § 103(a) over Mufford as applied to claim 23, in view of U.S. Pub. No. 2004/0185316 ("Wells") and U.S. Pub. No. 2002/0192467 ("Ballentine").

III. ARGUMENTS

A. Rejection of Claims 23, 24, and 26 under 35 U.S.C. § 102(b) over U.S. Pat. No. 6,186,254 ("Mufford")

With respect to claim 23, Mufford fails to disclose a controller that controls a hydrogen supply and an air supply to power a heater to warm a fuel cell stack and a water supply **while a vehicle is not running**.

The Examiner alleges that "[r]egarding the limitation 'when the vehicle is not running,' the Examiner notes that starting the fuel cell is not synonymous to starting the motor, and thus the fuel cell is capable of heating the heater with or without the motor running." (See p. 5, lines 1-3 of the Examiner's Answer).

Appellants note that the Examiner has not provided any support for this allegation. Appellants also note that, as best understood by Appellants, Mufford does not support this position. As best understood by Appellants, the teachings of Mufford are evidence that starting the fuel cell is in fact synonymous with starting a vehicle. For example, Mufford states that "[t]he resistor 70 is connected to receive electricity from shore power from, for example, a shore power circuit 90, thereby allowing the resistor to function as a block heater that prevents the fuel cell stack from freezing and facilitates start-up in cold weather." (Column 4, lines 33-38). As "shore power" generally refers to a land based power source (e.g., an alternating current wall outlet), Mufford teaches that an independent power source may be used to power the resistor 70 when the vehicle is shut down. If starting a fuel cell is not synonymous with starting a vehicle, as alleged by the Examiner, Mufford would likely have used fuel cell power instead of using shore power while the vehicle of Mufford is shut down.

Appellants again note that the fact that a certain characteristic simply **may** occur or be present in a prior art reference is **not** sufficient to establish inherency of that characteristic. *In re Rijckaert*, 28 USPQ.2d 1955, 1957 (Fed. Cir. 1993) (emphasis added). Here, as best understood by Appellants, Mufford only teaches operating the fuel cell stack of Mufford while the vehicle of Mufford **is running**. Thus, the Examiner has failed to provide any evidence that Mufford is capable of controlling a hydrogen

supply and an air supply to power a heater to warm a fuel cell stack and a water supply **while the motor vehicle is not running**, as claim 23 recites.

The Examiner cites column 4, lines 39-41 of Mufford where Mufford states that "[f]uel cell power may be advantageously used to power the resistor soon after start-up to bring the fuel cell stack within the predetermined operating temperature range and during operation to improve fuel cell performance . . ." (See p. 7, lines 7-10 of the Examiner's Answer). Based on the above portion of a sentence, the Examiner alleges that "[t]he start-up of Mufford's fuel cell does not require the vehicle to be running, and thus the fuel cell is capable of operating (and thus heating the heater) with or without the vehicle running." (See p. 7, lines 11-14 of the Examiner's Answer) (emphasis omitted). As best understood by Appellants, the Examiner's position is that Mufford's use of "start-up" in the above portion of a sentence refers to start-up of the fuel cell of Mufford.

If that is the case, Appellants respectfully assert that the position is incorrect and an improper interpretation of Mufford. In full, the cited sentence of Mufford states that "[f]uel cell power may be advantageously used to power the resistor soon after start-up to bring the fuel cell stack 30 within the preferred operating temperature range and during operation to improve fuel cell by maintaining the fuel cell stack 30 within the preferred temperature range especially **when the motor vehicle is operated in cool ambient temperatures.**" (See column 4, lines 38-46) (emphasis added). Separating the clauses of the quoted sentence for purposes of clarity, Mufford teaches that fuel cell power may be advantageously used to power the resistor: (1) soon after start-up to bring the fuel cell stack 30 within the preferred operating temperature range especially **when the motor vehicle is operated in cool ambient temperatures**; and (2) during operation to improve fuel cell by maintaining the fuel cell stack 30 within the preferred temperature range especially **when the motor vehicle is operated in cool ambient temperatures**. Therefore, Appellants respectfully submit that the referenced "start-up" refers to the start-up of the motor vehicle of Mufford and that interpreting the referenced "start-up" as referring to start-up of the fuel cell is unreasonable.

In refusing to afford the limitation of "while the vehicle is not running" any weight, the Examiner notes that courts have held that "a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus if the prior art apparatus teaches all of the structural limitations." (See p. 8, lines 9-13 of the Examiner's Answer). Essentially, the Examiner takes the position that the first controller ever created to control hydrogen and air supplied to a fuel cell stack anticipates all other later invented controllers that control hydrogen and air supplied to a fuel cell stack because a controller is a controller.

However, the Examiner fails to recognize that a claimed controller, like the controller of claim 23, is structurally adapted for it to perform the claimed functions. Here, as previously pointed out by Appellants, one of ordinary skill in the art would understand the functional limitations of claim 23 impart structural limitations upon the controller of claim 23. More specifically, the structure of the controller of claim 23 is such that the controller controls a hydrogen supply and an air supply to power a heater to warm a fuel cell stack and a water supply **while the vehicle is not running.** Therefore, the Examiner's continuing refusal to afford the limitation of claim 23 any weight is improper.

The Court of Appeals for the Federal Circuit has recently stated: "[w]e thus hold that unless a reference discloses within the four corners of the document not only all of the limitations claimed but also all of the limitations arranged or combined in the same way as recited in the claim, it cannot be said to prove prior invention of the thing claimed and, thus, cannot anticipate under 35 U.S.C. §102 . . .." *Net MoneyIN Inc. v. VeriSign Inc.*, 88 USPQ.2d 1751, 1759-1760 (Fed. Cir. 2008). Here, Mufford fails to teach a controller that controls a hydrogen supply and an air supply to power a heater to warm a fuel cell stack and a water supply **while a vehicle is not running** as claim 23 explicitly recites.

For at least the above reasons, claim 23 is in condition for allowance. Claims 24-26 and 29 depend from claim 23 and, therefore, are in condition for allowance for at least similar reasons.

B. Rejection of Claim 25 under 35 U.S.C. § 103(a) over Mufford as applied to Claim 23, in view of U.S. Pat. No. 6,592,741 ("Nakanishi")

To establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *See, e.g., In re Vaeck*, 947 F.2d 488, 20 USPQ.2d 1438 (Fed. Cir. 1991).

Nakanishi does not remedy the deficiencies of Mufford with respect to claim 23 from which claim 25 depends. Therefore, claim 25 is in condition for allowance for at least similar reasons as claim 23.

Appellant's position with respect to claim 25 should not be understood as implying that no other reasons for the patentability of claim 25 exists. Appellants reserve the right to address these other reasons at a later date if needed.

C. Rejection of Claim 29 under 35 U.S.C. § 103(a) over Mufford as applied to Claim 23, in view of U.S. Pub. No. 2004/0185136 ("Wells") and U.S. Pub. No. 2002/0192467 ("Ballentine")

To establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *See, e.g., In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Neither Wells nor Ballentine remedies the deficiencies of Mufford with respect to claim 23 from which claim 29 depends. For at least these reasons, claim 29 is in condition for allowance for at least similar reasons as claim 23.

Appellants' position with respect to claim 29 should not be understood as implying that no other reasons for the patentability of claim 29 exists. Appellants reserve the right to address these other reasons at a later date if needed.

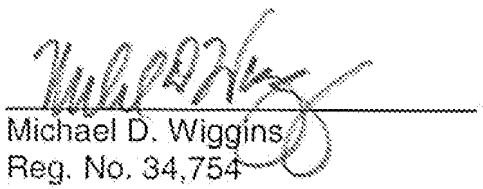
CONCLUSION

Appellants respectfully request the Board to reverse the Examiner's rejection of the claims on appeal.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

HARNESS, DICKEY, & PIERCE, P.L.C.

By: 
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